CLAIMS

Claims 1 – 16 (canceled).

Claim 17 (original): A method for controlling aircraft lift, the aircraft having at least one wing, the method comprising:

mounting an oscillating aero surface to the aircraft wing;

connecting a resonant frame to the oscillating aero surface;

mounting an actuator to the resonant frame; and

producing a sinusoidal force on the resonant frame resulting in a resonant deformation in the resonant frame and resonant-sinusoidal displacement of the aero-surface.

Claim 18 (original): The method of claim 17 wherein the actuator is a linear voice coil actuator.

Claim 19 (original): The method of claim 17 and further comprising:

applying transverse to the motion of the aero-surface such that the sinusoidal force developed by the actuator on the resonant frame results in a resonant rocking motion of the resonant frame, resonant deformation of the columns, and resonant-sinusoidal displacement of the aero-surface.

Claim 20 (original): The method of claim 17 and further comprising:

mounting the aero surface flush with an upper surface of the aircraft when the actuator is unpowered.

Claim 21 (original): The method of claim 20 and further comprising:

transmitting acoustic frequency alternating current through the voice coil device; and

producing a force, the force varying sinusoidally in time.

Claim 22 (original): The method of claim 21 and further comprising:

matching the frequency of the voice coil alternating current with the elastic resonance frequency of the resonant frame and oscillating aero-surface mass-spring system

thereby resulting in amplitude oscillatory motion of the aero-surface perpendicular to the aircraft wing surface.

Claim 23 (original): The method of claim 22 and further comprising:

projecting the top portion of the oscillating aero-surface cyclically into the air flowing over the top surface of the wing; and

disturbing the smooth flow over the wing causing local flow separation and vortex structures.

Claim 24 (original): The method of claim 23 and further comprising:

reducing the vacuum pressure at local points on the wing; and

changing the coefficient of lift which can be used to maneuver the aircraft or to suppress aerodynamic flutter.

Claim 25 (original): The method of claim 20 and further comprising:

returning the oscillating aero-surface to a position flush with the upper wing surface upon depowering.

Claim 26 (original): The method of claim 17 and further comprising:

providing two or more systems within the aircraft wing.

Claim 27 (original): The method of claim 26 and further comprising:

operating each system independently of the other systems with specific displacement, phase relationship, and operation frequency of the second device is selected to amplify the lift modification effects of the first device.

Claim 28 (original): The method of claim 27 and further comprising:

originating a wave-like flow disturbance structure at a first device;

increasing the disturbance as subsequent effectors cause flow disturbance resonance and the attenuation of the lift effects follows a similar spatial-time pattern with the

cyclic displacement of each of the aero-effector devices being actively canceled resulting in a return to smooth flow over the wing.